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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/920,440	08/01/2001	Rajendra Singh	SURR.62	6604

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EXAMINER

CROSS, LATOYA I

ART UNIT PAPER NUMBER

1743

DATE MAILED: 03/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application

09/920,440

Applicant(s)

SINGH ET AL

Examiner

LaToya I. Cross

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-30 and 39-54 is/are pending in the application.
- 4a) Of the above claim(s) 26-30 and 39-54 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-12 and 14-26 is/are rejected.
- 7) ☒ Claim(s) 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4, 6</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 10-26, drawn to a method for extracting analytes using a nanoparticle having different extraction phases, classified in class 436, subclass 177.
 - II. Claim 27, drawn to a method for extracting analytes using a plurality of extraction probes of different masses, classified in class 436, subclass 178.
 - III. Claims 28-30, 43-48 drawn to a method of extracting analytes using probes encoded with spatially-resolvable codes, classified in class 210, subclass 502.1.
 - IV. Claims 39-42, drawn to a method of detecting analytes using a first and second set of extracting probes, classified in class 436, subclass 177.
 - V. Claims 49-54, drawn to a method for designing analyte extraction probes using combinatorially derived extraction phases, classified in class 436, subclass 177.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I, II, III, IV and V are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions Each of the inventions in groups I, II, III, IV and V have different modes of operation because they use different kinds of extraction phases to extract/detect analytes.
3. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, III, IV and V, restriction for examination purposes as indicated is proper.

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4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Barry Swanson on March 5, 2004 a provisional election was made with traverse to prosecute the invention of group I, claims 10-26.

Affirmation of this election must be made by applicant in replying to this Office action. Claims 27-30, 39-54 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 10-12, 17, 19, 20 and 22-26 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,279,742 to Markell et al.

Markell et al '742 teach a method for isolating contaminants from a sample by way of solid phase extraction. Markell et al '742 uses an extraction medium having a

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polytetrafluoroethylene fibril disks enmeshed with sorptive particles (solid supports). The sorptive particles are in the form of particulates, fibers, granules, beads or powders, as recited in claims (col. 3, lines 16-21). The particles are encapsulated with coatings (extraction phases) such as polymers, aliphatic groups (C8 and C18) and other organic coatings, as recited in claim 20 (col. 4, lines 38-68). The coatings can be varied to provided selectivity in molecular separation and polarity (col. 4, lines 51-68). At col. 10, lines 45-51, Markell et al '742 teach that where combinations of contaminants are to be extracted, different types of coated particulates should be used, as recited in claims 10 and 12. Further, Markell et al '742 teach that the extracted contaminants may be eluted and the analytes determined, as recited in claims 17 and 19. With respect to claims 22-25, Markell et al teach that 5 or more extraction probes may be used where combinations of analytes are to be separated (col. 10, lines 45-51). Markell et al further teach that the extraction phases can contain variation in it chemical composition so as to provide selectivity in molecular separation (col. 4, lines 66-67). In other words, the coatings, which serve as extraction phases, may contain different chemistries to allow extraction of several different analytes. Examples 1 and 2 of the reference demonstrate extraction and isolation of contaminants from a sample.

Therefore, for the reasons set forth above, Applicants' claimed invention is deemed to be anticipated, within the meaning of 35 USC 102(b) in view of the teachings of Markell et al '742.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 14-16, 18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Markell et al in view of US Patent 5,766,962 to Childs et al.

The disclosure of Markell et al is described above.

Markell et al differs from the instant invention in that 1) there is no teaching of the particular methods and techniques for distinguishing extraction probes, as recited in claims 14-16 and 18, and 2) there is no teaching of proteins used as extraction phases, as recited in claim 21.

With respect to the techniques for distinguishing extraction probes, optical techniques, as well as those such as absorbance and fluorescence detecting, are conventionally used in the art of analyzing substances. It would have been obvious to one of ordinary skill in the art to use any technique to analyze the extraction probes of Markell et al according to the extracted analytes.

With respect to using proteins as extraction phases, Childs et al teach analyzing samples for target analytes, where some analytes must be extracted from the sample. Childs et al further teaches that extraction of some analytes requires the presence of a protein, such

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bovine serum albumin. It would have been obvious to one of ordinary skill in the art to use proteins in the extraction of certain analytes, recognizing that proteins can aid in the extraction of certain analytes from liquid samples.

Therefore, for the reasons set forth above, Applicants' claimed invention is deemed to be obvious, with the meaning of 35 USC 103 in view of the teachings of Markell et al and Childs et al.

Allowable Subject Matter

12. Claim 13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 13 is directed to encode extraction probes wherein the extraction probes are distinguished in dependence on the encoding. The prior art of record fails to teach or suggest such encoded extraction probes.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaToya I. Cross whose telephone number is 571-272-1256. The examiner can normally be reached on Monday-Friday 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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March 8, 2004


Jill Warden
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